

REMARKS

Upon entry of this amendment, claims 2-10, 12-14 and 16-18 are all the claims pending in the application. Claims 1, 11 and 15 are canceled by this amendment. Applicant notes that claims 2-10, 12-14 and 16-18 have been amended in a non-narrowing so as to remove the claims from interpretation under 35 U.S.C. § 112, sixth paragraph. These claim amendments were not made in response to any prior art or other rejection.

Applicant also notes that a number of editorial amendments have been made to the specification and abstract for grammatical and general readability purposes. No new matter has been added.

I. Claim Rejections Under 35 U.S.C. § 101 and § 102(e)

The Examiner has rejected claims 1, 11 and 15 under 35 U.S.C. § 101 and § 102(e). As noted above, claims 1, 11 and 15 have been canceled by this amendment, thereby rendering these rejections moot.

II. Claim Rejections Under 35 U.S.C. § 103(a)

The Examiner has rejected claims 2-10, 12-14 and 16-18 under 35 U.S.C. § 103(a) as being unpatentable over Zhodzishsky et al. (U.S. 6,219,376), in view of Gordy et al. (U.S. 4,186,349).

Claim 2 recites the feature of an input-signal control circuit operable to restrict an effective word length of a digital value of respective input signals. The Examiner recognizes that Zhodzishsky does not teach or suggest such a feature. In an attempt to cure this deficiency, the

Examiner applies Gordy and asserts that Gordy discloses the above-noted feature. Applicant respectfully disagrees.

Gordy discloses a radio receiving apparatus which is able to reduce the narrow band noise from a desired data signal. In particular, Gordy discloses the use of a feedback process that utilizes an integral equation processor 40 that determines the best solution for reducing the amount of noise by solving an equation (see col. 3, lines 18-37 and col. 4, lines 57 - col. 5, line 7).

The integral equation processor 40 of Gordy utilizes three inputs in order to determine how to reduce the noise of the signal. In particular, a signal output by the automatic gain control 14 is used as a first input, a gain control signal on line 17 is used as a second input, and a covariance signal produced by the summer 24 is used as a third input (see Fig. 1; col. 3, lines 41-51). As noted above, these signals are used by the integral equation processor 40 in a feedback system in order to produce an improved data signal by removing substantially all of the narrow band noise from the desired data signal (see col. 4, line 57 - col. 5, line 7).

Thus, while Gordy discloses a system that is able to produce an improved data signal by removing narrow band noise via the use of a feedback system, Gordy does not disclose an input control circuit that is operable to restrict an effective word length of a digital value of respective input signals, as recited in claim 1. Indeed, Applicant respectfully submits that Gordy does not even remotely suggest such a feature.

In addition, Applicant notes that the mixers 11, 18 and 26 of Gordy function to extract a carrier signal, but do not act to restrict an effective word length of a digital value of an input

signal, and likewise, Applicant submits that mixer 28 of Gordy also fails to perform such a function (see Fig. 3).

Further, Applicant notes that the Examiner states in the Office Action that the above-noted feature in claim 2 is old and well known in the art. Applicant respectfully disagrees. To the extent that the Examiner is relying on Official Notice in making this statement, Applicant respectfully requests that the Examiner provide a supporting reference in accordance with MPEP 2144.03.

In view of the foregoing, Applicant respectfully submits that the cited prior art fails to disclose, suggest or otherwise render obvious all of the features of claim 2. Accordingly, Applicants submits that claim 2 is patentable over the cited prior art, an indication of which is respectfully requested.

If the Examiner maintains the rejection of claim 2 based on the combination of Zhodzishsky and Gordy, Applicant kindly requests the Examiner to particularly point out the passage and structure in Gordy that are being relied upon as allegedly disclosing the above-noted feature of claim 2.

Claims 3 and 8 depend from claim 2 and are therefore considered patentable at least by virtue of their dependency.

Claim 4 recites the feature of an input-signal control circuit operable to add noises to the input signals. The Examiner recognizes that Zhodzishsky does not teach or suggest such a feature. In an attempt to cure this deficiency, the Examiner applies Gordy and asserts that Gordy discloses the above-noted feature. Applicant respectfully disagrees.

As noted above, Gordy discloses a feedback process that utilizes an integral equation processor 40 to remove substantially all of the narrow band noise from a desired signal (see col. 5, lines 4-7). Thus, as is clear from the disclosure of Gordy, noise is removed from the signal, not added. Accordingly, Applicant respectfully submits that Gordy fails to disclose or suggest the feature an input signal control circuit operable to add noises to input signals, as recited in claim 4.

In addition, Applicant notes that the mixers 11, 18 and 26 of Gordy function to extract a carrier signal, but do not act to add noises to input signals, and likewise, Applicant submits that mixer 28 of Gordy also fails to perform such a function (see Fig. 3).

Further, Applicant notes that the Examiner states in the Office Action that the above-noted feature in claim 4 is old and well known in the art. Applicant respectfully disagrees. To the extent that the Examiner is relying on Official Notice in making this statement, Applicant respectfully requests that the Examiner provide a supporting reference in accordance with MPEP 2144.03.

In view of the foregoing, Applicant respectfully submits that the cited prior art fails to disclose, suggest or otherwise render obvious all of the features of claim 4. Accordingly, Applicants submits that claim 4 is patentable over the cited prior art, an indication of which is respectfully requested.

If the Examiner maintains the rejection of claim 4 based on the combination of Zhodzishsky and Gordy, Applicant kindly requests the Examiner to particularly point out the

passage and structure in Gordy that are being relied upon as allegedly disclosing the above-noted feature of claim 4.

Claims 5 and 9 depend from claim 4 and are therefore considered patentable at least by virtue of their dependency.

Claim 6 recites the feature of an input-signal control circuit operable to multiply input signals by a control coefficient of less than 1. The Examiner recognizes that Zhodzishsky does not teach or suggest such a feature. In an attempt to cure this deficiency, the Examiner applies Gordy and asserts that Gordy discloses the above-noted feature. Applicant respectfully disagrees.

As noted above, Gordy discloses an integral equation processor 40 that solves an equation to minimize the amount of narrow band noise in a desired signal. The equation that the integral equation processor 40 solves is shown in col. 3, lines 22-23 of Gordy. The Examiner alleges that the solving of this equation by the integral equation processor 40 of Gordy corresponds to an input signal control circuit operable to multiply input signals by a control coefficient of less than 1, as recited in claim 6. Applicant respectfully disagrees.

While the equation in col. 3 of Gordy is used to reduce the amount of narrow band noise, the solving of the equation does not involve multiplying an input signal by a control coefficient of less than 1. As can be understood from the description of the variables (see col. 3, lines 25-34) in the equation in col. 3 of Gordy, multiplying an input signal by a control coefficient of less than 1 simply does not occur.

If the Examiner disagrees and maintains the rejection, Applicant kindly requests the Examiner to specifically identify the input signal in the equation shown in col. 3 of Gordy as well

as the coefficient of less than 1 that is being multiplied by the input signal.

In view of the foregoing, Applicant respectfully submits that the combination of the cited prior art fails to disclose, suggest or otherwise render obvious all of the features of claim 6. Accordingly, Applicants submits that claim 6 is patentable over the cited prior art, an indication of which is respectfully requested.

Claims 7 and 10 depend from claim 2 and are therefore considered patentable at least by virtue of their dependency.

Regarding claims 12 and 16, Applicant submits that these claims are patentable for at least similar reasons as discussed above with respect to claim 2. In particular, Applicant submits that the combination of Zhodzishsky and Gordy fails to teach, suggest or otherwise render obvious the feature of an input-signal control circuit operable to restrict an effective word length of a digital value of respective input signals, as recited in claims 12 and 16. Accordingly, Applicant submits that claims 12 and 16 are patentable over the cited prior art, an indication of which is respectfully requested.

Regarding claims 13 and 17, Applicant submits that these claims are patentable for at least similar reasons as discussed above with respect to claim 4. In particular, Applicant submits that the combination of Zhodzishsky and Gordy fails to teach, suggest or otherwise render obvious the feature of an input-signal control circuit operable to add noises to the input signals, as recited in claims 13 and 17. Accordingly, Applicant submits that claims 13 and 17 are patentable over the cited prior art, an indication of which is respectfully requested.

Regarding claims 14 and 18, Applicant submits that these claims are patentable for at least similar reasons as discussed above with respect to claim 6. In particular, Applicant submits that the combination of Zhodzishsky and Gordy fails to teach, suggest or otherwise render obvious the feature of an input-signal control circuit operable to multiply input signals by a control coefficient of less than 1, as recited in claim 14 and 18. Accordingly, Applicant submits that claims 14 and 18 are patentable over the cited prior art, an indication of which is respectfully requested.

III. Provisional Double Patenting Rejection

Claims 1-18 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-22 of co-pending Application No. 10/101,072 and over claims 1-28 of co-pending Application No. 09/960,377. As this rejection is provisional, Applicant hereby requests that the rejection be held in abeyance. If the provisional double patenting rejection is the only remaining rejection in the application, Applicant will file a terminal disclaimer, if necessary, to overcome such a rejection.

IV. Conclusion

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited.

If any points remain in issue which the Examiner feels may best be resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

Respectfully submitted,

Masatoshi TAKADA

By: Kenneth Fields
Kenneth W. Fields
Registration No. 52,430
Attorney for Applicant

KWF/abm
Washington, D.C. 20006-1021
Telephone (202) 721-8200
Facsimile (202) 721-8250
December 29, 2004